

In the Claims

Claims 1-20 [canceled].

1           21. [Previously Presented]    A data storage system comprising:  
2           storage circuitry configured to store digital data;  
3           a plurality of components coupled with the storage circuitry and  
4           configured to communicate transactions with respect to one another and to  
5           process the transactions to effect operations with respect to storage of digital  
6           data using the storage circuitry; and  
7           wherein at least one of the components is configured to detect a  
8           presence of a fault in a transaction communicated from an other of the  
9           components, and to disable communication of subsequent transactions from the  
10          other component to the one component after the detection of the transaction  
11          including the fault from the other component.

1           22. [Previously Presented]    The system of claim 21 wherein the one  
2           component is configured to not process the transaction including the fault.

1           23. [Previously Presented]    The system of claim 21 wherein the  
2           storage circuitry comprises a plurality of redundant storage circuits configured to  
3           redundantly store digital data.

1           24. [Previously Presented]    The system of claim 23 wherein the  
2           components comprise a plurality of mirror circuits individually configured to  
3           effect storage operations with respect to both of the storage circuits.

1           25. [Previously Presented]    The system of claim 21 wherein the one  
2           component is configured to disable an interface in communication with the other  
3           component to disable the communication of the subsequent transactions.

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1           26.   [Previously Presented]   The system of claim 21 wherein the one  
2   component is configured to communicate and process transactions with respect  
3   to an additional component after the disablement of the communication of the  
4   subsequent transactions.

1           27.   [Previously Presented]   The system of claim 21 wherein at least  
2   one of the subsequent transactions does not include a fault.

1           28.   [Currently Amended]   A redundant data storage system  
2   comprising:  
3       storage circuitry comprising a plurality of redundant storage circuits  
4   configured to redundantly store digital data; and  
5       a plurality of components coupled with the storage circuitry and the  
6   components are configured to communicate transactions with respect to one  
7   another and to process received transactions to effect operations with respect to  
8   storage of digital data using the redundant storage circuits, wherein the  
9   components are individually configured to identify transactions which include a  
10   fault, and to prevent processing of the transactions which have been identified  
11   as including a fault using the respective individual component.

1           29.   [Previously Presented]   The system of claim 28 wherein the  
2   transactions which include a fault are communicated from at least one of the  
3   components, and others of the components are configured to disable  
4   communications with respect to the one component to prevent the processing.

1           30.   [Previously Presented]   The system of claim 29 wherein the  
2   others of the components are individually configured to disable a respective  
3   interface coupled with the one component to disable the communications.

1           31.   [Previously Presented]   The system of claim 28 wherein the  
2   transactions for which processing was prevented would have otherwise been  
3   processed by recipient components.

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1           32. [Previously Presented]   The system of claim 28 wherein the  
2 components are individually configured to prevent the respective processing  
3 responsive to the identification.

1           33. [Previously Presented]   The system of claim 28 wherein at least  
2 one of the components is configured to identify at least one of the transactions  
3 including a fault as being communicated from an other of the components and  
4 to prevent processing of subsequent transactions communicated from the other  
5 component after the identifying.

1           34. [Previously Presented]   The system of claim 33 wherein the one  
2 component is configured to process transactions from additional ones of the  
3 components after the identifying.

1           35. [Previously Presented]   A redundant data storage system  
2 comprising:  
3           means for redundantly storing digital data;  
4           plural means for processing transactions for effecting operations with  
5 respect to the redundant storage of digital data; and  
6           wherein one of the means for processing is identified responsive to  
7 communication of a transaction including a fault from the one means for  
8 processing, and wherein subsequent transactions communicated from the  
9 identified means for processing which would otherwise be processed are not  
10 processed by at least one other of the means for processing responsive to the  
11 identification.

1           36. [Previously Presented]   The system of claim 35 wherein the  
2 subsequent transactions individually do not include a fault.

1           37. [Previously Presented]   The system of claim 35 wherein the  
2 other means for processing comprises means for disabling communications with  
3 respect to the one means for processing responsive to the identification.

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1           38. [Previously Presented] The system of claim 35 wherein the  
2 other means for processing comprises means for processing transactions of  
3 additional means for processing after the identification.

1           39. [Previously Presented] A data storage method comprising:  
2 storing digital data using a data storage system;  
3 communicating a plurality of transactions intermediate a plurality of  
4 components of the data storage system;  
5 processing the transactions using the components;  
6 using the components, effecting operations with respect to storage of  
7 digital data responsive to the processing;  
8 identifying one of the transactions from one of the components as  
9 including a fault; and  
10 disabling communications of others of the transactions from the one  
11 component responsive to the identifying.

1           40. [Previously Presented] The method of claim 39 wherein the  
2 storing digital data comprises redundantly storing digital data using a plurality of  
3 redundant storage circuits of the data storage system.

1           41. [Previously Presented] The method of claim 39 wherein the  
2 disabling comprises disabling respective interfaces of the other components  
3 responsive to the identifying.

1           42. [Previously Presented] The method of claim 39 further  
2 comprising processing transactions using the other components after the  
3 disabling.

1           43. [Previously Presented] The method of claim 39 wherein the  
2 disabling comprises disabling communications of at least one of the others of  
3 the transactions not including a fault.

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1           44. [Currently Amended] A data storage method comprising:  
2           storing digital data using storage circuitry of a data storage system,  
3           wherein the storing comprises redundantly storing an identical data item of the  
4           digital data within individual ones of a plurality of redundant storage devices;  
5           providing a plurality of redundant components of the data storage system  
6           and individually configured to effect data storage operations of the storage  
7           circuitry;  
8           identifying corruption of one of the components;  
9           isolating the one of the components responsive to the identifying; and  
10          after the isolating, providing redundant functionality of the isolated  
11          component using a redundant one of the components corresponding to the  
12          isolated component.

1           45. [Currently Amended]       The method of claim 44 ~~wherein the~~  
2           ~~storing digital data comprises redundantly storing the digital data using a~~  
3           ~~plurality of redundant storage circuits~~ further comprising, using the data storage  
4           system, receiving the data item from externally of the data storage system  
5           during storage operations of the data storage system.

1           46. [Previously Presented]     The method of claim 44 where the  
2           providing redundant functionality comprises providing a transaction using the  
3           redundant component and corresponding to an isolated transaction of the  
4           isolated component.

1           47. [Previously Presented]     The method of claim 44 wherein the  
2           redundant component provides the same functionality as functionality of the  
3           isolated component.

1           48. [Previously Presented]     The method of claim 44 wherein the  
2           isolating comprises preventing processing of transactions from the isolated  
3           component which would have otherwise been processed.

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1           49. [Previously Presented] The method of claim 44 wherein the  
2 isolating comprises disabling communications of others of the components with  
3 respect to the isolated component.

1           50. [Previously Presented] The method of claim 44 wherein the  
2 isolating comprises disabling at least some communications from the isolated  
3 component.

1           51. [Previously Presented] The method of claim 50 wherein the at  
2 least some communications individually do not include a fault.

1           52. [New] The system of claim 21 wherein the components are  
2 configured to control redundant storage of a data item of the digital data within a  
3 plurality of different storage devices of the storage circuitry.

1           53. [New] The system of claim 52 wherein the different storage devices  
2 comprise a plurality of hard disks.

1           54. [New] The system of claim 52 further comprising receiving the data  
2 item from a host system external of the data storage system during operations of  
3 the data storage system.

1           55. [New] The system of claim 21 wherein the at least one of the  
2 components is configured to monitor for the presence of a parity error and a  
3 protocol error to detect the presence of the fault in the transaction.

1           56. [New] The system of claim 28 wherein the storage circuitry is  
2 configured to store an identical data item of the digital data within individual ones of  
3 a plurality of redundant storage devices of the storage circuitry to implement  
4 redundant data storage.

1           57. [New] The system of claim 56 wherein the redundant storage  
2 devices comprise a plurality of hard disks.

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1           58. [New] The system of claim 35 wherein the means for redundantly  
2 storing comprises means for redundantly storing a single data item in a plurality of  
3 storage devices.

1           59. [New] The method of claim 39 wherein the storing comprises  
2 redundantly storing a single data item of the digital data in a plurality of storage  
3 devices.

1           60. [New] The method of claim 59 wherein the storing comprises  
2 storing the single data item in the storage devices comprising hard disks.

1           61. [New] The method of claim 39 wherein the disabling comprises  
2 disabling communications comprising a first type of transactions from the one  
3 component, and further comprising receiving and processing a second type of  
4 transactions from the one component after the identifying and during the disabling  
5 of communications comprising the first type of transactions.

1           62. [New] The method of claim 44 wherein the storing comprises  
2 storing the identical data item within the redundant storage devices comprising hard  
3 disks.

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